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THE CITY OF NEW YORK OFFICE OF THE MAYOR NEW YORK, NY 10007

May 7, 2018

The Honorable Ryan D. McCarthy Under Secretary of the Army Department of the Army 102 Army Pentagon Washington, D.C. 20310-0102

Dear Mr. McCarthy:

New York City is pleased to be considered for the location of the new Army Futures Command Headquarters and is happy to provide you with the information packet you requested. As a vibrant metropolis that is home to many of our nation's brightest minds, including leaders of industry and top players in academia, along with a strong and well-established innovation eco-system, we believe that our city has much to offer the Army and is the ideal choice for this command's headquarters.

The New York City metro area is one of the world's largest and most diverse regional economies, providing opportunities for collaboration and partnership with companies at the forefront of innovation. From some of the biggest tech companies to small and nimble startups in every subsector, including cybersecurity, life sciences, and advanced manufacturing, our city is a titan of industry and offers employers the largest, most skilled talent pool in the country, including more software engineers than anywhere else in the United States. The five boroughs have always drawn the brightest minds from around the globe, a trend that continues today and has helped us become a city of people who speak 800 different languages. We are also proud of our many world-class academic institutions, like Columbia University, New York University, and the new Cornell Tech, that collaborate with industry to create and market new technologies.

Our city's neighborhoods are as varied as our residents, each with their own distinct character and an array of amenities to suit any need. We have profiled 11 potential neighborhoods that we believe would be well-suited for the Futures Command headquarters thanks to their mix of commercial presence, academic institutions, and population density. We feel confident that whatever neighborhood you choose, you will find talented, capable candidates, a thriving innovation eco-system, and a welcoming community.

As you narrow down your choices, New York City is here to help you find the right space and connect you with our partners in academia and the private sector, as well as with your new neighbors. We have always been a proud home to the military, from Fort Clinton, Governors Island, and the Brooklyn Army Terminal to the thriving base at Fort Hamilton that supports our area today. We are grateful for the chance to ensure that the Army will continue to be an integral part of the New York story and thank you again for considering our city for this exciting opportunity.

Sincerely,

Bill de Blasio Mayor

INTRODUCTION

A modernizing Army deserves a partner who knows something about reinvention. Over the years, New York City has transformed again and again-from a shipping town, to an industrial hub, and then the capital of the financial world. We've recently gone through another evolution, as a center of tech and innovation across all industries, from advanced manufacturing and cybersecurity to fashion and design.

As a new kind of command, the Army Futures Command requires a new kind of headquarters—one that is deeply embedded in an urban ecosystem, plugged into industry and academia, startups and scientists. New York City is an urban ecosystem like no other. We have the highest number of college graduates, the largest immigrant population, and more Fortune 500 companies headquartered here than any other city in North America. Our world-class research institutes attract almost \$3 billion in R&D investment each year, and they collaborate with each other and with businesses to share and commercialize that research. No other city has the same depth of innovative companies, and no other city has the diversity and breadth of talent that fuel these organizations day after day. What's more, the City is an active partner in fueling this innovation boom—across administrations, we're dedicated to ensuring that New York City stays on top and ahead of the curve for the industries and jobs of tomorrow.

New York City has all the ingredients the Army needs to attract and retain top talent for the Futures Command—a strategic location in the center of the Northeast Corridor, a diverse mix of neighborhoods, unmatched culture and entertainment, and the best public transit network in the country. People come here by the tens of thousands every year because we're constantly setting the bar higher on what it means to be the best city in the world.

Most importantly, Army Strong is New York City Strong. Our people are tough, and we know how to face adversity head on. We also know how to bounce backfrom 9/11 to Hurricane Sandy, New Yorkers are known for picking up, carrying on, and building again. And we've always taken those comebacks as chances to push boundaries and make change. It's why we build world-class parks on top of old train tracks, in abandoned tunnels, and over former Coast Guard bases. It's why we built Hudson Yards, the largest private real estate development in the history of the United States, and one of the most exciting new neighborhoods in the five boroughs. It's why we turned a 19th century Navy yard into a 21st century model for industry and innovation. And it's why we, more than any other city, continue to attract the best and brightest from around the world.

It's clear the Army is familiar with New York City as it relates to the military—you have facilities in the city and a historic set of properties nearby at West Point. And the recent Megacities Conference held at Fort Hamilton demonstrated a continued commitment to understanding urban theatres of war. Now the rest of this document will help you get to know New York City even better—as a place to work, innovate, live, and thrive.

NEW YORK CITY'S INNOVATION ECONOMY

ECOSYSTEM

New York City's tech ecosystem has grown rapidly over the past 10 years, and it's only the beginning.

Over the last 10 years, New York City's tech ecosystem has grown nearly three times as fast as the nation's.1 Driven both by larger firms and startups, employment in tech jobs has grown by more than 20 percent in the city, to 326,000 jobs in 2016, up from approximately 270,000 in 2011.2 Our metropolitan area workforce of over 278,000 software engineers is larger than any other and is more than double San Francisco's.3

Major tech companies like Google, Facebook, Salesforce, and Spotify are expanding here. Large technology companies have been drawn to the depth and quality of our tech ecosystem, shifting here from all corners of the world. The major players have significantly expanded their New York City presence in the last three years,4 with Google alone growing to occupy over 1.7 million square feet of space.5 Employers consistently note that they're better able to retain tech talent in New York, with the diversity of our industries and size of the talent pool reducing competition for tech talent compared to cities like San Francisco or Seattle.6

Companies in traditional sectors, like advertising, finance, and health care, are also experiencing technology-driven disruptions and are seeking to hire and train tech talent to remain competitive. Of the current tech jobs in New York City, nearly half are in "traditional" industries. As technology continues to pervade and affect virtually all aspects of the business climate, the city expects its tech ecosystem to continue to climb.

Finally, the city's startup scene is continuing to thrive. New York City now has over 120 startup incubators and over 9,000 startups.7 The city is particularly strong in commercializing technology solutions for industries like finance and health care where we've long been leaders. The city has also seen record volumes of venture funding, with \$8.96 billion in 20178, \$8 billion more than we had 10 years ago.



The City and State have developed funds to complement venture capital and help entrepreneurs succeed. These include NYCEDC's Life Sciences Fund, which will provide \$150 million in matching funds from top-tier venture capital partners to support early-stage life sciences startups.9

There are also several statewide programs that provide funding directly to startups through New York Ventures, established in 2015 as a centralized organization to streamline the administration of the State's innovation investments. Their funds include:

- New York State Innovation Venture Capital Fund: A seed and early-stage venture capital fund that will invest up to \$100 million in promising new high-growth businesses
- Technology Commercialization Fund: An \$8 million fund-of-funds focused on making pre-seed investments in companies focused on the commercialization of technologies emerging from universities and research labs across New York State
- Innovate NY Fund: A seed-stage fund-of-funds with up to \$47 million to support innovation, job creation, and high-growth entrepreneurship throughout New York State
- Minority- and Women-Owned Business Investment Fund: A \$2 million equity investment fund investing in early-stage, New York State-certified Minority- and Women-Owned Business Enterprises that are proven innovators

2007-2017 New York City Metropolitan Area Total Venture Capital Invested¹⁰

Time Period	Total Capital Invested
2017	\$8.96B
2016	\$8.10B
2015	\$7.91B
2014	\$5.72B
2013	\$3.03B
2012	\$1.66B
2011	\$1.86B
2010	\$974.6M
2009	\$475.3M
2008	\$758.7M
2007	\$628.6M

TALENT

We continue to invest in our talent, from Pre-K to PhDs.

From our earliest days, New York City has been defined by enterprise and **innovation**. The strength of our talent is what makes this possible.

New York City's technology and innovation workforce is unmatched. There are 2.3 million New Yorkers with a bachelor's degree or above, more than Los Angeles, San Francisco, Philadelphia, D.C., and Boston combined.¹¹ Further, 5.3 million residents with bachelor's degrees or higher live in the NY-NJ-PA region, seamlessly connected by the Metro-North, Long Island Railroad, and NJ Transit systems. 12 We have three times as many residents with graduate degrees as our closest competitor, and more software engineers than any other city—double that of Boston and San Francisco and triple that of Philadelphia. 13

Army-Requested Engineering Occupations in New York City, 2014, 2017, and Projected 2024¹⁴

Occupation	2014	2017	2024 (Projected)
Software Developers (Applications)	31,140	33,350	41,210
Software Developers (Systems Software)	9,430	9,570	12,650
Computer Programmers	11,120	7,790	11,460
Web Developers	6,850	8,070	9,330
Biomedical Engineers	290	n/a	390
Chemical Engineers	290	n/a	350
Computer Hardware Engineers	200	350	250
Electrical Engineers	2,680	2,810	3,080
Materials Engineers	350	n/a	450
Mechanical Engineers	2,330	2,210	2,870

Our vision is to become the largest and most diverse innovation economy in the country, and it starts from the first day a student enters the classroom. We're firm believers that the success of our tech economy depends on

our STEM pipeline. In 2015, Mayor de Blasio announced CS4AII, a 10-year, \$81 million initiative that will enable all 1.1 million students in New York City's school system to study computer science across grades K-12 by 2025. In only a few years, nearly 1,000 teachers have been trained and just last year, close to 90,000 students received instruction across 500+ schools. We are the largest school system in the nation with a program of this kind.15





Our growing Career and Technical Education (CTE) programs allow students to graduate high school with academic and industry-recognized skills leading to high quality college and career options. CTE supports nearly 60,000 students annually, with over 200 programs including engineering, robotics, media tech, design, business management, distribution & logistics, among others.

At the post-secondary level, we have over 120 colleges and universities16, the largest public university system in the country, and a metro college population of over 1 million students¹⁷, larger than the entire population of Boston. Columbia University, New York University, and the City University of New York (CUNY) are just a few of the world-class universities that call New York City home.

When it comes to higher education, however, New York City is not resting on its laurels. In 2010, we sought to create a world-class applied sciences school to train talent for the new economy. By 2011, Cornell-Technion, a collaboration between Cornell University and the Technion-Israel Institute of Technology, had been created. Last fall we celebrated the grand opening of Cornell Tech's brand new \$2 billion sustainable campus on Roosevelt Island. The school will be home to more than 2,000 students and 200 professors working to integrate technology, business, law, and design, and create new innovations for the digital age.18

This past summer, we announced funding and a plan to double CUNY's tech bachelor's graduates to 1,000 a year by 2022, leveraging investments co-designed with industry. 19

As skills needs continue to evolve at a faster pace, we're also designing nimble new training and employer partnership models. We are a pioneer in this area, with cities all over the world replicating our programs. We are home to over 100 organizations that provide accelerated tech training programs. We have more coding boot camps than any other city in the country, with 22 programs serving over 2,000 people annually.20



This year, the City announced a new 258,000-square-foot hub for technology jobs and workforce development. Located in Union Square, it will serve as a focal point for tech training and startup incubation in the core of our "Silicon Alley."21 The tech hub will include space for an affordable digital skills training center, office space for startups, a retail and market area, and additional traditional office space on the upper levels.

NYC TECH TALENT PIPELINE (TTP)²²



ABOUT

TTP collaborates with tech industry leaders from 200+ companies to align the city's tech training and education infrastructure to deliver the talent these companies need. Thousands of New Yorkers will be equipped with

21st century skills and connected to in-demand jobs, with hundreds already employed at companies like Spotify, Viacom, and Betterment.

ACADEMIC PARTNERS

The TTP Academic Council is comprised of 16 local post-secondary institutions—including Columbia, NYU, Pace, Pratt Institute, and CUNY—who meet regularly to develop pathways for New Yorkers to careers in tech fields.

CORPORATE LEADERSHIP

The TTP Advisory Board is comprised of 28 CEOs, CTOs, CIOs, and senior executives representing the city's top tech employers and a collective workforce of 50,000 New Yorkers.

The city also has a number of veteran-specific STEM initiatives meant to encourage and support veterans in innovation and technology.

NYU hosts a number of programs that focus on veterans in entrepreneurship. These include:

- Veterans Future Lab, the first business incubator for military veterans; Sponsored by Barclays, this initiative is located at Industry City in Brooklyn's Sunset Park neighborhood and supports early-stage and veteran entrepreneurs
- Veterans Entrepreneurship Training (VET) program, a 12-week course in which veterans learn about business and technology from startup companies and industry leaders through hands-on experiential learning, mentorship, and capstone projects

Another New York City initiative that supports entrepreneurship is Bunker Labs. This nonprofit was built by military veteran entrepreneurs and provides educational programming, access to resources, and a local network for military veterans and spouses starting and growing local businesses. Their Launch Lab program is a 12week in-person course that would help entrepreneurs develop ideas into businesses. Bunker Labs recently partnered with WeWork to launch its Veterans in Residence program, granting subsidized working space for veterans in New York City.²³

There are several ways the Army Futures Command can partner with local organizations to connect with New York City's tech talent and increase the diversity of the Army's workforce.

- Partner with organizations like Per Scholas, Coalition for Queens, CUNY Techworks, and others to grow the diversity of the Army's tech talent pipeline with programs designed to train overlooked talent pools with in-demand tech skills
- Work with WiTNY or The Young Men's Initiative (YMI) to connect training partners to youth, young adult, and adult populations to increase the scale of diverse talent that the Army can access
- Join TTP Advisory Council of employers of tech talent and/or collaborate with TTP to identify diverse tech talent to recruit for available positions

NEW LAB AT THE BROOKLYN NAVY YARD



The Army currently has several ongoing collaborations at New Lab at the Brooklyn Navy Yard that promote enhanced military capability through conversations with entrepreneurs, academics, and end users. One example of this is the MD5 Humanitarian Hackathon, a targeted, incentivized challenge that brings together technologists,

entrepreneurs, and researchers to deliver deployable and scalable outcomes for the Army. In October 2016, MD5 officially launched with a 3-day disaster relief hackathon hosted at New Lab. This was focused on bringing together military and civilian first responders including FDNY to create solutions to humanitarian assistance and disaster relief challenges experienced in dense urban environments. Challenge areas spanned from logistics and planning to real-time communications and response efforts.

New Lab and DoD stakeholders recently met for a strategy session to define actionable challenges to focus on in future challenges. The goal is to create an Army Capabilities Accelerator (ACA) to create an enduring network of people who can be activated to develop, test and scale dual-use technology solutions for current and future capability gaps experienced by the Army. Representatives from MD5, Army Futures Command Task Force (Soldier Lethality and Synthetic Training Environments CFTs and AFSG), 75th Innovation Command, ARDEC, TRADOC and CAC-T, USMC I&L, New Lab, GXM, NYU and Hard Yards came together for the day-long strategy session at New Lab that resulted in a roadmap to create the ACA.

R&D OPPORTUNITIES

NYC has strong academic and industry partnerships that, together with government, create a robust R&D network the Army can tap into.



New York City has a strong R&D network that knits together academia, government, private business, and health care and other nonprofit institutions. We attract the second largest R&D funding pool in the country—over \$2.8 billion in 2015²⁴—which is more than double that of San Diego or Dallas. Our world-class research institutions are driving innovation in key areas such as data science, artificial intelligence, machine vision, semantic search, robotics, mobile data, autonomous vehicles, augmented and virtual reality, cybersecurity, logistics, health care IT, and much more. To do so, they leverage strong partnerships with industry. However, what's unique about New York City is that there's no one model for what these partnerships look like.

For example, our academic institutions have created specialized institutes like the Data Science Institute at Columbia University and the NYU Center for Urban Science and Progress to continue to drive innovation in tech and related industries every day. The Data Science Institute at Columbia has over 250 affiliated faculty and collaborates with top companies such as Booz Allen Hamilton, Cisco, Microsoft, and SAP in focus areas including machine learning, robotics, sensors, and wireless communications. NYU's Center for Urban Science and Progress uses urban informatics to help better understand how cities work, working with partners including IBM, ConEdison, IDEO, Lockheed Martin, and 16 City agencies to look at issues ranging from emergency preparedness to air quality.

There are also several robust examples of cross-university partnerships that the Army could emulate. For example, PowerBridge NY's mission is to turn academic research into real cleantech products. Five academic institutions including CUNY, Columbia, and Cornell work with the largest energy companies and government partners to run an accelerator and solve discrete energy challenges through the "Hacking for Energy Program." The program has awarded \$3.1 million to teams and launched 12 startups that have received an additional \$14.9 million in follow-on funding.

There are many opportunities to build on this legacy and create partnerships customized to the Army's needs. For example, the Army Futures Command could:

- Create a cross-university R&D lab to focus on one of the Futures Command's six priority areas, following the model of PowerBridge NY
- Participate in faculty exchanges, which allow faculty to work at another organization while maintaining their position at universities including Columbia and NYU. The Army could leverage joint appointments as ways to collaborate with relevant researchers and access in-demand new talent
- Sponsor entrepreneurs-in-residence programs with our top institutions to gain access to emerging startups and top talent in key fields of interest; Columbia, NYU, and the New School have participated in exchanges with organizations from Dropbox to 23andMe to the Baltimore Symphony
- Develop organized competitions for teams across our universities to solve Army-specific technical challenges with mentorship from faculty and your employees; Past examples include the Cornell Tech Studio, where leading organizations like Memorial Sloan Kettering and JetBlue Technology Ventures propose product challenges for students to solve by building new digital products and services

Further, the City is actively investing in promoting R&D in several target sectors that align with the Army's interests. We believe these investments will be catalytic, spurring more growth and investment in these areas, and further building the ecosystem for the Army to plug into in the years to come.

In cybersecurity, the City recently launched a major new initiative called Cyber NYC—an innovative suite of public-private partnerships. Cybersecurity is one of the fastest-growing areas of the innovation economy and is projected to reach \$170 billion in global spending by 2020.

Cyber NYC is designed to make New York City the leader in cybersecurity innovation.

- Cyber Center will create a physical space that serves as the primary hub for the city's cyber community, featuring community partnerships and the city's first cyber accelerator
- Talent Partnerships will provide New Yorkers from diverse backgrounds with the skills and experiences they need to secure good jobs in cyber through applied learning and a cyber boot camp
- Academic Innovation Exchanges will support the launch, growth, and commercialization of academic-based cyber research



The City is in the process of selecting operators for these programs. The City recognizes the critical role of law enforcement, national security, and the military in the cyber industry and would look to partner with the Army to draw on its expertise and network.

In the life sciences, the City and State are making historic investments, with a combined \$1.15 billion in initiatives announced in the past year. New York City's initiatives include:

- \$150 million to create an Applied Life Sciences Campus to foster an innovation district that will connect academia and industry
- \$50 million to establish highly specialized centers of excellence to foster joint research and development partnerships
- Working with technology transfer offices of the 12 regional academic medical centers to match experienced management talent to earlystage companies spinning out of the institutions
- Supporting local internships in life sciences companies, as well as developing curricula for workforce development

There is an opportunity to influence the creation of high-performance infrastructure as part of one or both of these programs to suit the upstream development needs of the Army Futures Command.

Finally, New York City is investing in advanced manufacturing. Companies focused on new ways of making, prototyping, and building new production technologies represent a significant part of New York City's tech segment, from underwater drones to wearable haptic devices. In particular, New York City is known as the "3D printing capital of the world," ²⁵ with over 500 3D printers and nearly 3,800 manufacturers using them.²⁶ Additionally, with the most designers and top design schools (including Pratt and Parsons) in the country, there are many synergies between production and design that further strengthen our ecosystem.

The City supports advanced manufacturing through its Futureworks program, a suite of initiatives that includes an incubator, a network of prototyping and fabrication facilities across the five boroughs, and workshops and curricula for existing manufacturers. The Futureworks Center for Advanced Manufacturing is a forthcoming 20,000-square-foot shared production facility providing affordable access to equipment, studio/co-working space, storage/fulfillment, and educational and training opportunities at the Brooklyn Army Terminal.

There are also several existing military partnerships in the New York metro area that promote R&D, including:

- US Military Academy at West Point Relevant research centers include the Center for Molecular Science, Center for Innovation and Engineering, Photonics Research Center, Robotics Research Center, and Cyber Research Center
- Brookhaven National Lab (~60 miles east on Long Island) The Department of Energy campus is staffed with 3,000 scientists and engineers working in applied materials science and engineering, chemical engineering, condensed matter physics, and nanoscience
- Picatinny Arsenal (35 miles west of NYC) The facility hosts awardwinning leaders in the research, development, acquisition (RD&A) and integration of innovation, either from in-house experts or external partners, into military systems in an effective and efficient manner; judged to be the best operating RD&A model in the US Army

The NYC metro is home to numerous active Army bases and public facilities that can conveniently serve your needs for confidentiality, experimentation, and field testing. These assets include:

- Fort Hamilton (Brooklyn, NY) 177-acre base located right within the 5 boroughs in Bay Ridge; Fort Hamilton can serve as an immediate partner for any additional space needed in NYC
- Floyd Bennett Field (Brooklyn, NY) 321-acre site operated by National Parks Service and home to NYPD Aviation and the USMC reserves; the flight line is usable for small aircrafts and helicopters
- West Point (1 hour from NYC) 16,080-acres including a number of range facilities to compliment the academic mission of the installation
- Camp Smith (1 hour from NYC) 1,900-acre Army National Guard facility home to a number of training schools and ranges
- Picatinny Arsenal (45 minutes from NYC) 6,400-acre research and manufacturing facility that serves as key component to the Army's transformation goals
- Joint Base Maguire-Dix-Lakehurst (1 hour 15 minutes from NYC) The most active joint base in the Northeast Corridor, this 42,000-acre faculty can meet close to all of the Army's field testing needs

INTERNATIONAL PARTNERSHIPS

New York City is a global city with strong international partnerships.

New York City has long been a landing pad for the international community and our economy reflects that. Today there are over 5,000 foreign companies that have their US headquarters or a significant office presence in New York City. Together, these companies contribute 11 percent of the city's total \$761 billion annual economic output, employing 298,000 people and supporting an additional 775,000 jobs through multiplier effects.²⁷

New York City receives more foreign direct investment (FDI) than any other city in the US, particularly in technology. Inflows of FDI have steadily grown from \$1.2 billion in 2007 to \$4.2 billion in 2016, at an average annual growth rate of 15 percent. Technology is the fastest-growing FDI sector, increasing an average of 25 percent annually over the decade.²⁸ Subsectors that have seen the largest investment are fintech, digital media, and life sciences.

Many foreign governments have also started to open facilities in New York City to facilitate international innovation exchange and FDI. The presence of the German Accelerator, Canadian Technology Accelerator, Danish Cleantech Hub, the Nordic Innovation House, and many others will help ensure New York City remains a top destination for international innovation well into the future.

LIVING IN NEW YORK CITY



TRANSIT

New York is by far the most transit-rich city in the US. We are the only large city in the US where most workers commute via transit, and more than 80 percent of commuters to our central business district arrive on transit.²⁹ More customers use the MTA's network of subways and railroads than every other subway and commuter railroad system in the US combined.30 In 2016, average weekday subway ridership was 5.7 million and annual ridership topped 1.7 billion³¹, more than the heavy rail ridership of every other US city combined.32 Beyond the subway, our city has the largest bus fleet in the nation, serving over 2.5 million riders per weekday last year.33

The recently launched NYC Ferry connects traditionally-underserved waterfront communities from Astoria in Queens to Bay Ridge in Brooklyn. The first year of operations saw 3.7 million riders, with two more routes launching this summer.

Our city is also exceptionally accessible from points beyond the region. We are the prime terminal for the nation's largest commuter railroads—Long Island Railroad, Metro North, New Jersey Transit, and PATH—creating access for communities in New Jersey, Long Island, and areas of New York and Connecticut.³⁴ Our central location on AMTRAK's Northeast Corridor provides high-speed Acela service to major business, cultural, and political centers, including D.C., Philadelphia, and Boston. Our extensive highway network consisting of 235 miles of interstate highways enables easy access to the Northeast, Mid-Atlantic and New England regions, and supports freight access and flexibility beyond our transit network.35

Our three airports, JFK International, LaGuardia, and Newark Liberty International, represent the largest airport system in the United States, second in the world in terms of passenger traffic, and first in terms of total flight operations.³⁶ The Port Authority is continuing to improve and modernize these gateways for future travelers. By 2020, all three of our international airports will have undergone extensive renovations and enhancements, with more than \$20 billion of planned investment.³⁷ These investments include new terminals and gates at LaGuardia Airport by 2022, a full redevelopment of JFK in the next 5 to 10 years, and an upgraded Terminal A at Newark by 2022. They also include AirTrain access connecting LaGuardia to the commuter rail and subway systems, and an extension of the PATH train to Newark Liberty by 2026.

HOUSING

As a result of concentrated investments, we are making New York City increasingly affordable relative to other cities. In a comparison of median rents across major metropolitan areas, Washington D.C., San Francisco, San Diego, and Los Angeles are all more expensive rental markets than New York City. New Yorkers spend \$550 less per month on rent than residents of San Jose and \$210 less per month than residents of Washington D.C. Our volume of lower-cost housing stock eclipses the entire rental stock of most cities. The New York City metro area has over 1.8 million units below Boston's median rent—more than the total number of rental units in Boston and Seattle combined.

For military personnel assigned to the Army Futures Command, it's important to note that they will eligible for the highest Basic Housing Allowance (BAH) rate in the U.S. Army. This will help further ensure that the command's active duty soldiers will be able to enjoy all of the quality of life benefits that New York City has to offer.

2017 Median residential rent and total residential stock by metro area38

Metro	Median rent	Total # of rental units
San Francisco	\$1,580	801,484
Washington, D.C.	\$1,500	859,950
Los Angeles	\$1,340	2,315,974
New York	\$1,290	3,653,023
Boston	\$1,290	714,996
Seattle	\$1,250	590,325
Philadelphia	\$1,040	776,996
Chicago	\$990	1,345,735
Atlanta	\$970	825,782

EDUCATION

Army Futures Command families will have access to the largest and most diverse public education system in the country. Our schools are stronger than ever-72.6 percent of our students graduated last year, the highest graduation rate in the history of New York City.39 We now also offer Pre-K for all our kids, with 70,00040 already enrolled. By 2021 this program will also extend to three-year-olds. This program ensures that working families have access to high-quality early childhood education for their children.



The City is also investing to make sure that our kids are ready for the jobs of the future. In 2015, Mayor de Blasio announced CS4All, a 10-year, \$81 million initiative that will enable all 1.1 million students in NYC's school system to study computer science across grades K-12 by 2025. We are the largest school district in the nation with a program of this kind.41 Our growing Career and Technical Education (CTE) programs allow students to graduate high school with academic and industry-recognized skills leading to high quality college and career options. CTE supports nearly 60,000 students annually, with over 200 programs including engineering, robotics, media tech, design, business management, distribution and logistics, among others.

SAFETY

New York City is the safest big city in the country, and it's only getting safer.

Crime dropped last year to its lowest point since World War II, with a murder rate of about 3.4 per 100,000.42 New York City had the lowest overall crime rate of the nation's 30 largest cities at the end of 2017, according to a report from the Brennan Center for Justice. 43

The city is well-prepared to respond to potential terrorist incidents. The city's police, fire, and emergency management departments as well as other supporting agencies keep highly specialized personnel, teams, and operations centers on duty around the clock to ensure a rapid and well-coordinated tactical response. The City has also implemented programs like the Lower Manhattan Security Initiative to promote safety through cutting-edge technological solutions.

In addition to regular patrol units that have an average response time of 4.9 minutes to "critical crime in progress" calls, the New York City Police Department (NYPD) maintains several specialty units at all times. These include the aviation unit, bomb squad, critical response command, and harbor unit.

The average EMS response time to high priority calls is 6 minutes and 46 seconds. In addition to regular fire suppression and emergency medical services units, the Fire Department of the City of New York (FDNY) maintains a cadre of specialized units and personnel on a 24x7x365 basis to serve the 8.5 million people in New York City. This includes 440 fire companies in over 200 firehouses, and approximately 430 ambulances operating within the 911 system.

FDNY Average EMS Response Times to Selected Areas - CY 2017⁴⁴

Incident Level	1–3		4–8	
Segments	Incidents	Response Time	Incidents	Response Time
Citywide	565,754	6:44	896,514	9:31
Silicon Alley	4,310	5:59	6,273	9:16
Lower Manhattan (South of 14th Street)	28,375	6:24	44,775	9:33
Lower Manhattan (South of Houston)	16,945	6:38	26,121	9:60
Midtown Manhattan (59th to 34th Streets)	22,359	7:00	36,632	11:25
Midtown Manhattan (59th to 23rd Streets)	33,531	6:46	56,603	10:51
Midtown Manhattan (59th to 14th Streets)	39,705	6:39	66,323	10:37
Midtown Manhattan (59th to Houston)	51,135	6:31	84,977	10:15
Upper West Side (University Corridor)	12,723	6:35	18,661	10:55
Long Island City	4,626	7:08	7,313	9:04
Brooklyn Tech Triangle	5,248	6:13	9,887	8:32
Governors Island	10	6:34	7	13:31
Staten Island	24,952	6:20	34,955	7:30
The Bronx	991	6:46	204,216	10:08



The City's Fire and Police Departments and Office of Emergency Management have a number of ongoing partnerships with the Army to train and learn about disaster preparedness and emergency response, and were featured at the recent Megacities Conference at Fort Hamilton.

PARKS AND GREEN SPACE

Our city is a beautiful juxtaposition of cityscape and green park space. We are home to some of the most iconic parks in the world including Central Park, Prospect Park, and Hudson River Park. And we're not only improving our 30,000 acres of City-owned parks, but we're also creating new green spaces where you'd least expect.⁴⁵ The beloved Brooklyn Bridge Park was built by converting old piers into beautiful parkland. You can play soccer on a floating pier in front of the world's most iconic skyline or take a ferry out to a 172-acre island with parks in the middle of New York Harbor.



VETS

New York City respects, values and empowers our veterans and their families.

Veterans, service members, and their families are civic assets; their demonstrated commitment to service prepares them for a lifetime of leadership among their peers, in their neighborhoods, in their communities, and in their cities. Research tells us this is true: veterans, service members, and their families vote, volunteer, and engage with their neighbors more than their civilian counterparts. Members of the military and veteran community are, indeed, our city's leading natural renewable resource; by supporting them, New York City is clearly investing in the strengths of these amazing citizens.

The New York City Department of Veterans' Services (DVS) was created in December 2015, making the agency the nation's first and only municipal office to serve veterans and their families.

The DVS mission is to foster purpose-driven lives for New York City service members, veterans, and their families through community connectedness, targeted advocacy, and compassionate service.

NYC'S VETERAN SUCCESS NETWORK



A collaborative of NYC colleges and universities that DVS has brought together to share best practices, resources and opportunities to advance the more than 12,000 student veterans who call our City home.



A network of more than 25 different nonprofit organizations that connect service members, veterans, and their families with civilian mentors who provide personal support and career guidance.



Veterans Business Council is a planned initiative that will leverage the private and government sectors to increase procurement opportunities for veteran-owned businesses and entrepreneurs.

Technology and Innovation

In the summer of 2018, the nation's leading coordinated service delivery platform— NYServes—will be relaunched as VetConnectNYC. This pioneering network links the community to a constellation of vetted service providers. The platform can be accessed online, by phone, or by working with one of DVS's team members.

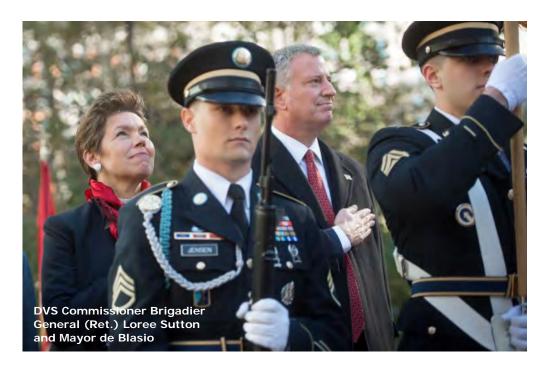
In 2016, DVS conducted its first accounting of the veteran population in New York City. Using American Community Survey and VetPop 2014 data, extrapolations from New York State National Guard and reserve strengths, and estimates of non-federally qualified veterans, the agency delivered the first accurate veterans population estimates, as well as demographic and geographic information. This work was recently recognized by GovTech, which awarded DVS' Chief Information Officer the "Best of New York City award in Data Analytics." DVS was one of only seven City agencies and offices—out of 135—to win this award.

VetsThriveNYC

VetsThriveNYC offers veteran-specific programming within the larger ThriveNYC network, New York City's groundbreaking mental health support system. VetsThriveNYC takes the Core4 approach to health-integrating arts and culture, peer support, holistic health care services, and clinical treatment when needed. Through Core 4, DVS addresses not only the physical health of our veterans, but the impact of war on the human mind, body, and spirit.

Housing and Support Services

New York City has reduced veteran homelessness by nearly 90 percent in the last five years through an innovative model that uses peer support to place veterans in permanent housing. In December 2015, New York City became the largest city in the country to be certified by the federal government for ending chronic veteran homelessness. Through a series of nationally recognized innovations, the City is rapidly approaching "Functional Zero."

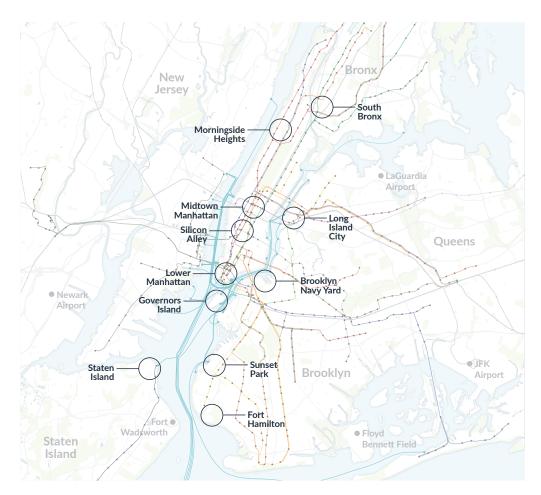


NEIGHBORHOODS

New York City is known for its robust economy, top schools, world-class culture, and verdant green space. But perhaps the city's best assets are its vibrant neighborhoods, home to the most diverse and talented communities in the world. The options presented on the following pages offer distinct neighborhoods that serve as microcosms of New York City as a whole. Each uniquely meets the needs of the Army Futures Command:

- A broad talent pool
- Access to adjacent academic and commercial institutions
- Innovation-focused environments
- Transit connectivity
- Diversity of housing options
- Community amenities
- Opportunities for innovative partnerships

The City can work with the Army to find the right location and can offer the full protection of the City's defensive services to secure the site and transportation to and from the site.





BROOKLYN



The Brooklyn Navy Yard, once a shipbuilding and R&D operation for the US Navy, has been transformed into a diverse hub of modern business. Centrally located on the Brooklyn waterfront, the yard and surrounding area are well-connected, dynamic communities that would allow the Army to tap into an existing ecosystem from day 1.

Businesses & Innovation

A 300-acre modern industrial campus, the yard has more than 400 businesses and 7,000 jobs. The site is a test bed for new technologies in industries including modern manufacturing, robotics, fabrication, design, and film & TV. The Navy Yard is home to New Lab and 1776, small business incubators that already partner with the DoD. New Lab operates an 80,000-SF collaborative work space that is home to 100 companies at the intersection of tech and hardware. New Lab currently partners with the DoD through the MD5 Humanitarian Hackathon and the Army Capabilities Accelerator. 1776 will open a 30,000-SF incubator in early 2019. At its Arlington Virginia campus, 1776 manages a startup community for the DoD that curates innovative high-growth tech startups in areas of interest to the Department.

Academia

The yard has academic partnerships with institutions across the city, including NYU, Brooklyn College, Pratt, CUNY, and Columbia. In nearby Downtown Brooklyn, higher education institutions serve 66,000 students.

Quality of Life

Downtown Brooklyn has over 70 diverse arts and culture organizations, along with a vibrant food and nightlife scene that makes it one of the city's great cultural destinations. The 85-acre Brooklyn Bridge Park draws millions of visitors annually to more than 500 events along the East River.

Transportation

Nearby Atlantic Terminal is served by 13 subway lines and 17 bus routes, with two shuttle loops connecting workers. A new NYC Ferry landing in late 2018 will connect the Brooklyn-Queens Waterfront and Lower and Midtown Manhattan. Direct access to the Brooklyn-Queens Expressway links to highways throughout the city and region.

Housing

Neighboring residential communities offer condos, market-rate rental units, and affordable housing options. The area has grown significantly over the past decade, with more than 21,000 residential units planned, in construction, or completed.



BROOKLYN Sunset



Sunset Park is a vibrant, modern industrial area with proximity to mass transit, a diverse workforce, and rich culture. The neighborhood has significant ties to military uses—the Brooklyn Army Terminal, formerly the 'US Army Military Ocean Terminal' or the 'Brooklyn Army Base,' served as the largest military supply base in the US through World War II. Today, the terminal is a commercial and industrial complex anchored by advanced manufacturing, design, maritime, and tech.

Businesses & Innovation

Sunset Park features an eclectic mix of legacy industrial companies and a growing base of innovative firms. Tenants at Industry City and Brooklyn Army Terminal span a range of sectors including technology, media, design, art, fashion, medical research, manufacturing, fabrication, and craft-making. Sunset Park is also home to the NYU Veterans Futures Lab at Industry City, profiled earlier.

Academia

Nearby educational institutions in Downtown and southern Brooklyn are dedicated to innovation and scientific research, including CUNY CityTech, Kingsborough Community College, and NYU Tandon School of Engineering.

Quality of Life

Sunset Park is home to expansive open spaces, a scenic waterfront, and streets lined with shops, restaurants, and art venues. The neighborhood embodies a melting-pot ethos with the city's second largest Chinatown, Irish bars, and restaurants that specialize in cuisines from throughout Latin America. The recently opened Bush Terminal Park saw the transformation of a long-dormant brownfield site into a park with ball fields, bicycle lanes, and waterfront access.

Transportation

Transit options to and from Sunset Park include three subway lines, six bus routes and two Citi Bike stations. Atlantic Terminal is a short subway ride away connecting workers and residents to the Long Island Rail Road. A NYC Ferry landing at Brooklyn Army Terminal links the neighborhood to the rest of the Brooklyn waterfront, Governors Island, and Lower Manhattan.

Housing

Sunset Park is in proximity to dense multifamily development and some of the most iconic brownstone residential communities in New York, including Park Slope, Red Hook, Bay Ridge, Greenwood, and Carroll Gardens.



MANHATTAN Silicon Allev



Silicon Alley, from the Flatiron Building south to Union Square in Manhattan, is the hub of New York City's tech scene. Originally home to companies in advertising, media, and e-commerce, the neighborhood has evolved into a melting pot of startups in biotech, fintech, virtual reality, artificial intelligence, and mobile commerce. The tech community capitalizes on the area's unrivaled transit access, nearby educational and cultural institutions, and adjacent parks.

Businesses & Innovation

With hundreds of tech firms in the vicinity, Silicon Alley offers an energetic business community. The ecosystem continues to grow with over \$7.3 billion in venture capital generated and projects such as the Tech Training Center, a new 258,000-square-foot building that will be a focal point for tech training and startup incubation.

Academia

Baruch College, with more than 18,000 students, and The New School, a worldrenowned university focused on cutting-edge design, are both located in the heart of Silicon Alley. In addition, NYU's main West Village campus and Cooper Union's East Village home are nearby.

Quality of Life

The bustling neighborhood is known for its beaux-arts architecture and thriving restaurant scene, music venues, shops, and markets. The Flatiron Building is one of the most iconic buildings in the city. Madison Square Park offers gardens, public art, food trucks and year-round events. Union Square serves as a central hub of activity with music performances, chess games, and the wildly popular greenmarket.

Transportation

10 subway lines, 15 Citi Bike stations, and 11 bus routes connect the neighborhood to Lower and Upper Manhattan, Brooklyn, and Queens. The PATH train to Hoboken and Jersey City has two stations in the area. Both Penn Station and Grand Central Terminal are 10-minute subway trips away, providing regional access to Long Island, New Jersey, Connecticut, and Westchester.

Housing

Residential options in the neighborhood range from luxury buildings to historic walk-up buildings. The central location of Silicon Alley lends itself to quick access to proximate housing markets in Gramercy, Greenwich Village, Chelsea, and Williamsburg.



MANHATTAN Lower Manhattan



Over the last two decades, Lower Manhattan has experienced a renaissance spurred by over \$30 billion in public and private investment. The result is a community of 61,000 residents and 277,000 employees. With over 89 million square feet of office space and New York City and New Jersey transit systems, Lower Manhattan provides access to the information, ideas, and people the Army Futures Command needs to succeed.

Businesses & Innovation

Tech, advertising, media, information, and professional services firms have grown from occupying 18 percent of Lower Manhattan's office occupancy in 2008 to 31 percent today. Since 2005, 91 tech firms have relocated to the area, occupying over 1.4 million square feet of space and establishing a thriving tech community.

Academia

There are 24 higher education and continuing education providers serving 52,000 students in the neighborhood. These include Pace University, Metropolitan College of New York, Borough of Manhattan Community College, and New York Law School.

Quality of Life

Lower Manhattan boasts more than 83 acres of waterfront open space including the East River Esplanade and The Battery. Millions of people visit the area to experience its cultural institutions, performance centers, and shopping and entertainment at the historic South Street Seaport.

Transportation

The neighborhood's transportation network reaches over 1.7 million people living within a 45-minute commute. The area is served by 13 subway lines, two PATH lines to New Jersey, three ferry landings that link to 15 routes, 28 Citi Bike stations, and more than 2.3 miles of bike lanes. A planned extension of the PATH train will create a 30-minute ride to Newark Airport. I-78 and The Holland and Hugh L. Carey Tunnels connect the neighborhood to New Jersey and Brooklyn.

Housing

With approximately 3,500 housing units under construction or planned, the neighborhood continues to grow. Lower Manhattan is also directly connected to neighborhoods that are expected to add over 22,000 housing units in the coming years.



MANHATTAN Midtown



Midtown Manhattan sits at the epicenter of the New York City region's 20 million residents. Its anchors include Grand Central Terminal and Penn Station, the region's most important transit hubs, and Hudson Yards, a rising live-work-play neighborhood.

Businesses & Innovation

From Coach and L'Oréal, to Time Warner and private equity giant KKR, firms in every industry have chosen to make Midtown Manhattan home. A burgeoning innovation scene is also developing with Grand Central Tech, a startup accelerator hosting over 100 companies spanning nearly every sector in tech.

Academia

The Fashion Institute of Technology and NYU train thousands of students each year.

Quality of Life

Madison Square Garden is home to three professional sports teams and is the city's premier concert venue. Chelsea, a hub of the art world, stretches along the High Line, a repurposed 1.5-mile elevated rail line. Hudson River Park has 550 acres of recreational piers and connects to a running and biking path around Manhattan. Boulevard, a new system of parks and open space, will connect Hudson Yards to 42nd St. and includes entrances to the new seven-line subway station at 34th St.

Transportation

Transit links the area to over 1.9 million workers within a 45-minute commute including 15 subway and four PATH rapid transit lines, commuter rail and buses, high-speed intercity rail, and access to all three major airports. Recently, the City, State, and Federal governments committed over \$7 billion for upgrades to Penn Station, with more expected. The new Moynihan Train Hall is under construction and will feature modern amenities and new retail options. Metro-North Penn Access will also provide access to all four commuter rail networks.

Housing

Midtown Manhattan affords access to a range of residential options with reasonable commutes, at a variety of price points. At Hudson Yards, several new residential developments will provide over 10,000 new units just blocks away; and transit connects to options in other boroughs, New Jersey, Long Island, Westchester, and beyond.



MANHATTAN Morningside Heights



Located just north of Manhattan's Upper West Side, Morningside Heights is home to world-class universities and iconic cultural attractions. The neighborhood also has historical ties to advances in military tech and innovation, as research for the Manhattan Project was conducted here in the basement laboratory of Columbia University's Pupin Hall.

Businesses & Innovation

Operating primarily as an educational hub, Morningside Heights caters to smaller companies in tech, consulting, advertising, and information.

Academia

Columbia University's academic community comprises over 40,000 students, faculty, and staff, including the new Center for Veteran Transition and Integration. The educational footprint continues to expand as Columbia builds its Manhattanville Campus, 17 acres of open space and academic buildings stitched into the neighborhood fabric.

Quality of Life

Nearby Lincoln Center curates 11 performing arts organizations including the New York Philharmonic, Jazz at Lincoln Center, the Metropolitan Opera, and the New York City Ballet. The American Museum of Natural History just a few blocks south offers a trip through the past and the Beacon Theatre features unforgettable concerts and special events. Over 25 million people visit Central Park's 843 acres of green space that has served as the city's world-famous urban oasis for over 150 years. Riverside Park offers stunning waterfront views and connects to a larger network of parks, plazas, bike paths, and recreational areas along the Hudson River.

Transportation

Three subway lines run along Broadway and Central Park West and connect the neighborhood to Lower Manhattan, Queens, and the Bronx. The area boasts five bus routes and 12 Citi Bike stations and offers access to Westchester and New Jersey via the West Side Highway and George Washington Bridge.

Housing

Just south of Morningside Heights, the Upper West Side offers a quiet, suburbanlike neighborhood due to its brownstones on tree-lined streets. Other housing types such as condos, co-ops, high-rise buildings, and smaller walk-ups can be found throughout the area. Regional markets in New Jersey and Westchester provide additional housing options.



MANHATTAN Governors sland



Just a stone's throw from the hustle and bustle of Manhattan, Governors Island features more than 50 historic buildings and 90 acres of resilient open space in the heart of New York Harbor. This former military base is overseen by the Trust for Governors Island, a mission-based nonprofit tasked with building upon the City's \$300 million investment in the island through educational, nonprofit, and commercial uses. The Island's unique governance structure positions the trust to partner with and provide the space for the Army Futures Command.

Businesses & Innovation

The island's proximity to the region's talent pool, along with ample space and unique campus, make it a one-of-a-kind option to curate a workplace that inspires creativity and promotes innovation. Spaceworks and the Lower Manhattan Cultural Council are two organizations developing and curating spaces for artists and co-working.

Academia

Governors Island is located close to premier universities in Lower Manhattan and Downtown Brooklyn, with ferry connections to the Cornell Tech campus on Roosevelt Island. In addition, a key partner on Governors Island is the Urban Assembly Harbor School, which focuses on maritime, marine biology, and STEM education.

Quality of Life

Today, Governors Island is a lively destination for art, culture, learning, and recreation, with acres of spectacular public open space. Over 70 arts organizations provide free programming, including visual art exhibits, educational workshops, festivals, and concerts. The dining scene continues to grow with two dozen outdoor food vendors, two beer gardens, and a 32,000-square-foot oyster bar and restaurant that opened in 2017.

Transportation

Governors Island is accessed by fast, frequent ferry service. Ferries depart Manhattan from the Battery Maritime Building, which is close to six subway lines and adjacent to the Staten Island Ferry terminal. NYC Ferry connects the island to the Brooklyn waterfront, Long Island City, and Midtown Manhattan.

Housing

Though residential use is not allowed on the island, ferries provide quick access to diverse housing options in Brooklyn, Queens, and Manhattan.



QUEENS Island



The Army Futures Command can join an emerging urban innovation district in Long Island City. The neighborhood sits at the nexus of multiple local and regional transportation networks that will allow the Army to draw talent from throughout the borough, home to 2.3 million people and among the most racially and ethnically diverse counties in the country, with over 138 languages spoken.

Businesses & Innovation

Long Island City's industrial, commercial, and cultural communities thrive on collaboration, creativity, and innovation. The Army Futures Command would join a community of over 6,600 businesses producing everything from cutting-edge wireless infrastructure for transit to the world's largest 3D printing company, to high-tech glass, aviation, and films.

Academia

Educational anchors include Cornell Tech, LaGuardia Community College (with over 45,000 students and 11,000 faculty), and CUNY School of Law.

Quality of Life

Long Island City is home to over 150 restaurants, bars, and cafés, and over 40 arts and cultural institutions. Gantry Plaza State Park, a former Pepsi bottling plant that was converted into a 12-acre park, completes Long Island City's southern waterfront, connecting to the recently opened 10-acre Hunter's Point South Park.

Transportation

The neighborhood's transit, connecting over 1.6 million workers within a 45-minute commute, includes eight subway lines, 15 bus routes, 50 Citi Bike stations, and two NYC Ferry routes. With Grand Central Terminal one subway stop away, regional rail systems provide access to housing markets around the city, as well as in Long Island, Westchester, Connecticut, and New Jersey. LaGuardia Airport is a 15-minute drive or a 30-minute transit ride away, and JFK Airport is less than 45 minutes by rail or car.

Housing

One of the nation's fastest-growing residential neighborhoods, the area is home to 170,000 residents, with 8,000 additional housing units to be completed by the end of 2018 and another 11,000 units in 2019 and beyond. A range of housing options is available, from historic single-family homes to affordable apartments, mixedincome developments, and high-rise luxury condos.

BROOKLYN

Hamilton





Historic Fort Hamilton is the only active military installation in New York City. There is significant development potential on the site that could allow for the Futures Command to co-locate at Fort Hamilton and/or create a linked training or testing facility to support the Future Command's activities. The site has great access to Staten Island over the Verrazano-Narrows Bridge as well as the rest of Brooklyn and Manhattan using the R train and I-278. It is located near the quiet but vibrant residential communities of Bay Ridge and Dyker Heights.





A short ferry ride away from Lower Manhattan, Staten Island is a bustling borough that is poised to grow tremendously over the next few years with a significant level of investment. Empire Outlets—the first outlet mall in the city—is expected to draw 4.5 million shoppers per year when completed, and mixed-use waterfront projects along the North Shore, such as Lighthouse Point and the New Stapleton Waterfront, will provide space for expanding businesses and hundreds of new housing units. Additional projects will bring brand new housing, major retail developments, iconic attractions, transportation upgrades, and waterfront parks to support the burgeoning ecosystem of entrepreneurs and businesses in the innovation economy that the Army Futures Command Center can join.





The Bronx is the northernmost of the five boroughs and is home to iconic New York City attractions, including the New York Yankees, the Bronx Zoo, and the New York Botanical Garden. With excellent transit accessibility, recent surge in residential development, anchor educational institutions, and attractive price points for commercial real estate, the Bronx, particularly the South Bronx, lends itself to the growth of an innovative tech sector that the Army Futures Command can help cultivate.

FINDING YOUR NEW YORK CITY HOME

New York City is known for its robust economy, top schools, world-class culture, and verdant green space. But perhaps the city's best assets are its vibrant neighborhoods, home to the most diverse and talented communities in the world. We know that the Army values building its Futures Command with the surrounding community, not just in it. Both the Army and its new home will be stronger if the command is seamlessly integrated into a community's existing fabric. We are here to give you the tools to make this possible.

New York City Economic Development Corporation (NYCEDC) is ready and able to introduce you to stakeholders, local leaders, and community organizations to help build a new command that works synergistically with its new neighborhood. We are also fully committed to helping you plan a community engagement process, including hosting in-person forums, leveraging technology, and making introductions to community leaders and local service organizations. The City's Community Affairs and Public Engagement Units would work with your team to ensure that the Army is connected with tenant associations, parent groups, students, communities of faith, and civic leaders—and help you identify investments and partnerships that will further opportunities for New Yorkers and enhance access to the strongest workforce in the nation.

The City's point of contact for the Army Futures Command is James Katz, Chief of Staff, NYCEDC.

For more information, contact:

James Katz; Chief of Staff, NYCEDC

jkatz@edc.nyc

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LETTERS OF RECOMMENDATION



Loree Sutton, MD COMMISSIONER

Jeffrey Roth **DEPUTY COMMISSIONER**

May 4, 2018

The Honorable Ryan D. McCarthy Under Secretary, U.S. Army The Pentagon Washington, DC 20310

Dear Mr. Under Secretary McCarthy,

New York City is pleased to provide its response to the Army's efforts to identify a suitable location for its new Futures Command headquarters. Mayor de Blasio's pioneering leadership in creating a citywide agency, the Department of Veterans' Services (DVS), to specifically meet the needs of veterans and their families highlights the profound respect and heartfelt support for those who have answered the nation's call to serve. DVS is poised to amplify and augment the Army's strategic investment in New York City at this critical juncture of evolving threats and opportunities in the nation's largest and most diverse city.

The New York City metro area is the world's largest and most diverse regional economy. It offers a unique opportunity to co-locate with companies at the forefront of innovation, from the biggest tech companies in the world to small and nimble startups in every subsector – including cybersecurity, life sciences, and advanced manufacturing. New York City also has world-class academic institutions, including Columbia, NYU, and the new Cornell Tech, that collaborate with industry to create and commercialize new technologies. Finally, we have the biggest talent pool in the country, including more software engineers than any other City, with people who speak as many as 800 languages and come from all over the world to live in our City.

New York City can offer the Futures Command a strong innovation ecosystem to plug into from day one, the ability to collaborate with top players in industry and academia, and a place at the center of a vibrant metropolis with the best talent drawn to the City, truly a crossroads of the world.

New York City is proud to offer an active military community. In addition to our nearly 190,000 veterans, NYC boasts 20,000 members of the National Guard and Reserves with several units headquartered in the City. Joint Task Force Empire Shield protects key locations throughout the City with nearly 800 soldiers on state active duty; 106th Rescue Wing within reach on Long Island; and Fort Hamilton, West Point, and Fort Dix all within 75 miles or less of the City.

Connect with us! @NYCVeterans www.nyc.gov/vets

1 Centre St, 22nd Floor, Ste 2208, New York, NY 10007 P: 212 416 5250 F: 212 312 0950

continued >

New York City has always been a home to the military, from Forts Clinton, Totten and Hamilton to Governors Island to the Brooklyn Army Terminal. From our historic relationship with West Point to our joint efforts to keep NYC safe from global terrorism to the incomparable opportunities for innovation, ingenuity and creativity, there is no better home for the site of the Army Futures Command.

Respectfully yours,

Loree Sutton, MD

US Army Brigadier General (Ret.)

Commissioner, New York City Department of Veterans' Services



May 9th, 2018

Dear "Army Futures Command Task Force",

The New York City Fire Department (FDNY) heartily supports the establishment of the Army Futures Command in New York City. The FDNY has a very active and robust partnership with the U.S. Army. This relationship has been mutually beneficial and enduring, and has been in effect for many yearsparticularly in the aftermath of the 9/11 attacks. This partnership includes all three components of the Army, and a broad array of commands, including TRADOC and the operational units of FORSCOM and USASOC. Very significantly, this bond has been mutually beneficial and enduring in providing both organizations a partner in developing both operational strategies and harnessing emerging technologies for our missions.

Since General Odlerno's visit with Commissioner Nigro and Chief of Department Leonard, on December 18th, 2014 the relationship has further evolved into a formalized partnership, and includes MOUs between the Army and FDNY. Of note, there is very little (if any) cost for this partnership, as it is a natural fit and mutually beneficial.

The FDNY actively supports the U.S. Army through a range of activities that include training, education, material development and conceptual development. These efforts include identifying and countering emerging threats and challenges (e.g. subterranean and high rise operations, fire and smoke as a weapon, degraded visual environment, HAZMAT and active shooter). This collaboration is best seen in supporting the Army's efforts concerning Dense Urban Areas/Megacities and Multi-Domain Operations. Our joint initiatives include three CBRN Joint exercises with the U.S. Northern Command/NORAD, the last one utilizing New York City's iconic transportation hub Penn Station, in November of 2017. An additional joint venture with U.S. Northern Command/NORAD is scheduled for July 2018, utilizing a church in the heart of Midtown. When that exercise is completed we will have completed four joint CBRN exercises over the last three years and will have allowed both of us to refine our operations and share best practices.

Recently we have begun an initiative to share training methodologies for our initial recruits as well as actively working with CAPE at West Point in developing professional ethics standards. Our partnership with the Army also includes the joint efforts between the FDNY Research and Development group and the Army's ARDEC (Picatinny Arsenal) in developing systems that will overcome the difficulties of force tracking both underground and in dense urban environments, as well as the communication challenges that also exist in these theatres of operation. This initiative builds directly off the MD5 Hackathon in which FDNY participated last October at the Brooklyn Navy Yard.

Fire Department, City of New York

9 MetroTech Center, Brooklyn New York 11201 3857

continued >

The collaboration between our two world class organizations has been, and will continue to be, a tremendous source of strength for our Nation. Indeed, the FDNY and other NYC municipal agencies are already working with elements of the Army Futures Command Task Force and Cross Functional Teams on a variety of topics. If the Army chooses NYC as the home for the Army Modernization Command, this collaboration will easily and rapidly expand in a very significant manner.

Sincerely, E Lemand

James E. Leonard Chief of Department

Fire Department, City of New York

9 MetroTech Center, Brooklyn New York 11201-3857



POLICE DEPARTMENT

May 9, 2018

The Honorable Ryan D. McCarthy Under Secretary, U.S. Army

Dear Mr. McCarthy,

The New York City Police Department has a deeply valued and long standing supportive relationship with our U.S. Armed Forces. We were honored to have been invited to participate in the "Multi-Domain Battle in Megacities" Conference held at New York City's Post at Fort Hamilton in April, where concepts for the new innovative Futures Command were discussed. We are now even more excited to find out the Department of the Army is considering New York City as the headquarters for its new Futures Command.

We feel that New York City offers a wide range of resources, more than any other city in the world. Our infrastructure is diverse offering some of the highest buildings, wide-ranging landscapes, complex marine and aviation ports, and one of largest underground transit systems. We are also home to many cutting edge technology companies that develop some of the most advanced communication networks, as well as highly innovative software engineering companies. New York City is also the regional epicenter of many federal, state and local entities and task forces that work closely to keep this country safe.

Throughout history, New York City has played an important role for our Armed Forces. Together, we have been on the front lines in the battle against the Global War on Terrorism. We have collaborated effectively with all three army components, our local National Guard and Reserve units, and active components to include RDECOM, TRADOC, USASOC, and other army elements. Many of our members proudly serve in the different branches of the military. We hope you will choose New York City to host the headquarters of the new Futures Command to deepen our relationship and support for each other.

James R. Waters

Sincerely

Chief of Counterterrorism



NEW YORK CITY EMERGENCY MANAGEMENT

165 CADMAN PLAZA EAST BROOKLYN, NEW YORK 11201

718-422-4616 FAX 718-422-8453

JOSEPH J. ESPOSITO COMMISSIONER

The Honorable Ryan D. McCarthy Under Secretary, U.S. Army

Dear Mr. McCarthy,

New York City Emergency Management is pleased to support the possibility of the Army siting its new Futures Command here in New York City. Our agency is privileged to work with the Army in planning for hazard specific and all-hazard events, tabletop and functional exercises, preparing Army personnel stationed in New York City for emergencies and during real world emergencies, such as Hurricane Sandy.

NYC Emergency Management is one of the largest and most active emergency management departments in the country and the world. We have a state-of-the art emergency operations center (EOC) which has seats for 140 City, State, regional, and federal agencies, as well as non-profit and private sector partners. During catastrophic manmade and natural events, the EOC coordinates the City's response and recovery on a 24-7 basis. We have seats for our military partners and during Sandy, all branches of the US Military worked alongside all our partners in the EOC.

We also coordinate emergencies in the field, working with the NYPD and FDNY, as well as other agencies tasked with keeping our residents safe and mitigating significant events.

We also host guest delegations from all over the world on a weekly basis to share our experiences and lend our expertise.

I can't think of a better place for a new Futures Command than our great city. We look forward to continuing to strengthen our relationship with the Army through this process.

Sincerely,

Commissioner, WC Emergency Management



May 7, 2018

Mr. Ryan D. McCarthy Under Secretary Of The Army Department of Defense Washington, DC 20301

Dear Mr. McCarthy:

On behalf of New York State and its economic development agency, Empire State Development, I want to express our excitement for the prospect of being the future home of the Army Futures Command Headquarters. We fully support the efforts of our partners at the New York City Economic Development Corporation to attract this cutting edge operation to New York.

The City's rich pool of talent, research institutions and world class businesses make it the most appropriate location for your new headquarters. New York City's metro region includes nearly 300,000 technology professionals in addition to entrepreneurial and leading business professionals. Our institutes of higher education are world renowned and have a well-established history of establishing new initiatives with businesses in innovative ways. Our business community is comprised of the most well-known global businesses and leading edge innovation companies that are ready to strike new working partnerships.

In order to support New York City's economic growth and quality of life, the State has and continues to invest in the City's regional infrastructure and transportation network. There has been an unprecedented effort to rebuild bridges, improve our airports and rebuild the region's subway and commuter rail lines.

Rest assured that there is no better place for you to develop the Army Futures Command Headquarters than in New York.

Sincerely,

Howard Zemsky President & CEO

> **Empire State Development** 633 Third Avenue, New York, NY 10017 (212) 803-3100 | www.esd.ny.gov



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May 2018

May 9, 2018

Dear members of the Army Futures Command Task Force,

The Picatinny Chapter of the National Defense Industrial Association (NDIA) — one of the largest and most active in the nation — commends your decisive move to modernize the U.S. Army. We recognize the strategic importance of streamlining the research, development and acquisition process and how it will provide the Army increased flexibility and agility in confronting growing challenges from near-peer competitors in multiple domains throughout the world. Now more than at any time in recent memory, defense, industry and academia must broadly expand its partnership to seek out the kinds of innovation that will preserve our ability to deter aggression and promote peace through strength.

We were pleased to receive the news announcing that New York City will be further considered to host the Army's new Future Command Headquarters, and the Picatinny chapter writes in strong support of NYC as the home for the new command. The combined resources of the NYC Metropolitan Region, which includes Joint Center Picatinny and most of New Jersey, offer the best environment to support and enhance the mission of the new command. Taken as a whole, the Region provides significant advantages in key characteristics – e.g., most diverse and concentrated pool of technical and business talent in the U.S. – that make it the first choice over any other potential stationing location.

The 70 corporate and 640 individual members of the Picatinny chapter of the NDIA stand ready to partner with NYC in this ambitious and transformative initiative. The Picatinny chapter, working primarily through Joint Center Picatinny, already partners with NYC in a number of areas, from NYPD counterterrorism training to cooperative research with NY/NJ Port Authority to STEM education outreach. Combining forces with NYC to make Futures Command a success would be a natural extension of our ongoing, productive relationship.

We fully endorse New York City as the new Futures Command Headquarters.

Canypoli

Very respectfully,

Ralph J. Campoli Chairman of the Board

Picatinny Chapter NDIA

NEWLAB

19 Morris Ave, Brooklyn Navy Yard Brooklyn, New York 11205 718 488 7005

To Whom it May Concern:

I write this letter in support of New York City's bid for the Army Futures Command. Finding a home for this new unit, focused on emerging technology, in New York City is a natural extension of the local advanced tech sector. New Lab sees many benefits to the Army becoming part of the local tech ecosystem and carrying out their work developing technologies and cultivating a civilian network of partners who can aid in helping to keep our country safe right here in New York.

New Lab, a collaborative workspace based at the Brooklyn Navy Yard, supports a community of 600+ entrepreneurs who are defining the future of advanced technology and human experience. We were built by an unprecedented set of public and private partners and maintain deep relationships with these stakeholders. With a unique set of resources including resident space, specialized programming, over \$4M of on-site product realization equipment and expertise, and access to a network that includes venture capitalists, city agencies, leading corporations, universities and domain experts, we help innovation move faster. New Lab would look forward to the opportunity to integrate Army stakeholders into our ecosystem and to facilitate interaction, exchanges and collaboration between our community and the Army, focused on harnessing emerging technologies to keep our country safe.

New Lab regularly fosters collaborations across our extended network, a community of 7,000 people. These collaborations represent value and impact far beyond what any single entity could achieve on its own. New Lab is an ideal platform for the greatest minds to come together to solve urgent challenges through design, iteration and deployment.

New Lab is currently working with the Army Futures Command to develop an Army Capabilities Accelerator (ACA) intended to enhance military capabilities through deeper collaboration with communities of entrepreneurs, academics and industry leaders. The aim of this program is to build upon successful efforts to date, including the MD5 Humanitarian Hackathon at New Lab, to create an enduring network of people who can be activated to develop, test and scale dual-use technology solutions for current and future capability gaps experienced by the Army. With a local headquarters the results of this partnership could create bigger, longer-lasting impact and generate more local jobs and economic activity. New Lab supports New York City's bid to become the home for the Army Futures Command.

Please don't hesitate to reach out for additional information.

Sincerely

CEO & Co-Founder, New Lab

May 8, 2018 Page 1 of 1



May 4th, 2018

Dear Army Futures Command Selection Committee:

The New York University Veterans Future Lab is proud to support the NYC Economic Development Corporation's application to host the to-be established Army Futures Command's Headquarters in New York City, New York. Since 2009, the NYU Future Labs, a network of four NYU-sponsored small business incubators, have graduated 95 NYC-based, mostly tech-enabled companies, which have raised more than \$1 billion in capital and delivered an economic impact of approximately \$4 billion to New York City. Our efforts to advance entrepreneurship, novel market solutions, and new technologies in New York City and beyond dovetail with the Future Command's goal of leveraging emerging technologies to modernize the Army's warfighting capabilities.

If New York City is selected, then the NYU Veterans Future Lab commits to support all efforts taken by the City of New York and NYC EDC to facilitate the successful integration of the Army Futures Command into the Greater NYC Community. This support includes serving as a conduit through which the Futures Command may access the resources and talent of NYU's Future Labs network and the broader NYU population. With approximately 50,000 students, 10,000 staff and faculty, and 21 colleges and schools, NYU is the largest private nonprofit university in America.

Moreover, the Veterans Future Lab will gladly connect Army Futures Command to other technology-themed startup incubators in the New York City landscape. These high quality peers include, but not limited to: 1776, the Entrepreneurs Roundtable, Betaworks, and NYC Seed.

Lastly, the Veterans Future Lab will offer itself as a proving ground for potential personal business ideas that emerge from Futures Command Soldiers and their spouses. The VFL houses three no-cost programs / services that are designed for aspiring and practicing entrepreneurs who are either Veterans or spouses of Veterans. One is complimentary use of our state of the art prototyping space. Another is attendance of our 12 week, 36 hour "Introduction to Entrepreneurship" class, known as Veterans Entrepreneurship Training. The third is participation in Apex, an accelerator program whereby viable, early stage organizations that are Founded by a Veteran or a Veteran's Spouse may house in the Veterans Future Lab—receiving all of the benefits therein—for 365 days.

VETERANS FUTURE LAB | 87 35th St. 2nd Floor, Brooklyn, NY 11232 | Tandon.VFL@nyu.edu

continued >



On a personal note, I am a drilling Major in the US Army Reserve myself. I have deployed as an Infantry Officer to Iraq and Afghanistan. This month, I will graduate from the Army's Command and General Staff Officer's College. By working in the entrepreneurship space in New York City and wearing the uniform, I see the benefits to both sides were the Futures Command to house in NYC. Beyond NYU, I personally commit to doing everything in my power as a Citizen and Soldier to help the Futures Command thrive in this region should we be chosen.

Feel free to contact me directly if you have any questions. I can be reached at jhendon@nyu.edu, (718) 316-9697, and / or james.w.hendon2.mil@mail.mil.

James Hendon

Director

NYU Veterans Future Lab



142 57th Street, 11th Floor, New York, NY 10019

Wednesday, May 9, 2018

To whom it may concern:

My name is Don Johnston and I am the Executive Director of Bunker Labs NYC. Bunker Labs is a national not-for-profit 501(c)(3) organization built by military veteran entrepreneurs to empower other military veterans as leaders in innovation. I currently assist the New York City Department of Veterans' Services as a volunteer.

From what I understand through the NYC Economic Development Corporation, the U.S. Army is considering New York City as a potential location for its Futures Command. I am writing to show my team's strong endorsement of such a partnership.

New York City has the largest population filled with talent, culture, and diversity unlike any other city in the Union. There are 210,000 veterans, and almost 500,000 veterans and military family members, 11% of who served Post-9/11. At least 25% of veterans want to start their own business, and only 4.5% do however, a vast majority of these start-ups firms are in tech and engineering.

NYC is home to top universities and firms focused on engineering and technology, which will help ensure the Future Command's success by securing talent and collaborating with the business community. The city has a network of hundreds of successful large technology companies and corporate incubators for tech start-ups such as Barclays, J.P. Morgan, and Deutsche Bank. What's more, NYC is a leader in STEM, which facilitates innovation and development. New York University's Tandon Future Labs and Poly DUMBO Incubators and Futureworks NYC help to sustain the city's lead in modernism.

In 2017, NYC Mayor de Blasio launched a plan to enhance public schools offing in STEM called, "Computer Science for All" and STEM Matters NYC is an ongoing summer enrichment program engaging students in authentic STEM-based experiential learning. Clearly, NYC believes science, technology, and engineering are important to NYC and your mission.

NYC connects all five boroughs through the #1 public transportation system in the United States. Conceivably, the Army Futures Command could become part of the Silicon Alley ecosystem, or perhaps their new post is in The Bronx, Queens, or anywhere in Brooklyn. Regardless, the Army Futures Command is a valuable addition to an already robust community of innovators, and access nor size would pose a challenge.

The NYC community is proud to have the U.S. Military Academy established here, and its close relationship to West Point, and adding the Army's Future Command to the existing family of posts like, Fort Hamilton, Picatinny Arsenal, and Watervliet Arsenal just makes sense.

In conclusion, I cannot think of more fitting place than New York City to help support the Army's mission to prepare the next generation in technology, engineering, research, and development. Thus with great conviction I highly endorse the partnership with New York City and the Army Futures Command.

Thank you very much for your consideration.

Don Johnston **Executive Director**

Don.Johnston@BunkerLabs.org



Kenneth Fisher Co-chairman, Board of Trustees

Tuesday, May 08, 2018

The Honorable Ryan D. McCarthy Under Secretary, United States Army The Pentagon Washington, DC 20310

Dear Mr. Under Secretary McCarthy:

We are writing in enthusiastic support for New York City's proposal to serve as a home for the Army Futures Command. As Co-Chairmen of the Intrepid Sea, Air and Space Museum Complex, we are personally involved in myriad community programs, educational exhibits, cultural activities and civic engagement endeavors to honor our heroes; educate the public and inspire our youth.

As business executives serving in local, national and global industries, we are absolutely positive that New York City offers an unequalled set of conditions for ensuring the success of this historic and vitally important investment in our national security. There is no better place for preparing for the Army's future, whether engaged in cyber-security operations, humanitarian and disaster response actions, drug-interdiction, climate disruption effects, counter-terrorism strategies, or the emerging challenges of functioning in densely urban environments. New York truly is the crossroads of the world – and, in the past several years, has diversified its economy to become a leading technology haven fostering breakthrough innovation and invention, supported by leading academic institutions and vibrant financial, life sciences, advanced manufacturing, cultural and communication industries.

As philanthropists, our combined efforts extend far beyond the Intrepid Museum, to include mobilizing the New York real estate industry to secure permanent housing for homeless veterans; providing lodging in healing environments located around the world for military and veteran families whose loved ones are hospitalized; raising funds from donors large and small across America to build and equip world-class rehabilitation facilities and programs for our wounded, ill and injured service members engaged in the global war against terrorism; and serving as board members to guide post-9/11 veteran service organizations in establishing responsible and sustainable operations for the long haul. We eagerly perform this work, viewing our efforts as civic responsibility rather than charity; duties of citizenship over acts of obligation.

continued >



Although the general public in our current era tends to view New York City through the lens of the maritime services, we are well aware of the Army's historic role in the city, including the Battle of Brooklyn during the Revolutionary War; the 77th Infantry "Liberty" Division deploying to Europe during World War I; life in war-mobilized New York during World War II, when virtually every industry, institution and home was engaged in the war effort; and all that has transformed the city from the ruins of 9/11 to the resilience of today's vibrant New York. It seems both right and fitting that the Army's most ambitious reorganization concept in nearly five decades should be located where the Army itself formed and organized, under General George Washington's bold leadership, beginning its enduring legacy of service and sacrifice in securing the future of the our nation.

In closing, we are deeply grateful for this opportunity to endorse New York City as the ideal location for the Army Future Command headquarters. Please know that ours is an enduring gratitude reflected in continued action and rooted in the fierce urgency of now. To the Army, we pledge our sacred honor to ensuring your success and look forward to welcoming you to New York City, a place where the future is happening now.

Respectfully yours,

Mr. Kenneth Fisher Senior Partner Fisher Brothers

Mr. Bruce Mosler

Chairman of Global Brokerage

Cushman & Wakefield



May 9, 2018

The Honorable Mark T. Esper Secretary of the U.S. Army United States Army 101 Army Pentagon Washington, DC 20310-0101

Re: Futures Command Headquarters

Dear Mr. Secretary:

We are writing on behalf of the leadership of the city's business community to support the selection of New York City as the headquarters for the Army Futures Command Task Force.

The Partnership for New York City represents leaders of global companies that are at the forefront of the innovation economy in virtually every sector. These companies are located in New York because it offers a unique concentration of diverse talent, sophisticated research centers, and applied technology operations. No other city in the country has the range and depth of innovation resources that are directly relevant to large, complex systems as New York.

Our business community enjoys strong relationships with the U.S. military, both from a research, intelligence-sharing and procurement standpoint, as well as in the training and hiring of tens of thousands of veterans, and philanthropic support of the USO and other military-related causes. Many of our professional services firms - IBM, Deloitte, PwC, Accenture, EY, KPMG, McKinsey, SAP and Infor, to name a few - have a history of collaboration with the Department of Defense and the military services. Our energy and telecommunications utilities -- including Con Edison, National Grid, Verizon, AT&T - have relevant expertise in building and operating the largest and most advanced networks anywhere. Our financial and media firms have the most significant capacity to gather and use infinite amounts of data to inform strategic decisions and guide policy.

The Honorable Mark T. Esper May 9, 2018 Page 2

Equally important, the city's entrepreneurial tech start-up community is the fastest growing sector of our economy. New York's tech sector is a global leader in the application of artificial intelligence to a range of industries, including advanced manufacturing, life science and medical devices, communications, organizational management, big data, and logistics. The tech sector is nurtured by a collection of world class universities and medical research centers, which regularly partner with the business sector.

These are just a few of the assets that the Futures Command Headquarters could access in New York City. The Partnership is prepared to support the Army's development of a Futures Command Headquarters in the city and to ensure that it is a successful undertaking.

Sincerely,

Kathryn Wylde President and CEO

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